

Work Order ID 93314

93314

Page 1

November-15-12 11:36:24 AM

Item ID: D6101-017

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Saddle Billet

Start Date: 11/23/12 Start Qty: 10.00

10

Cust Item ID:

Required Date: 11/30/12 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: ML5 Date: 12-11-14 Tooling:

Date:

Run Start *NR1*

QC: Date: SPC (Y/N):

Date:

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D6101

B

100

0.00

100

Purchasing

Purchasing

PURCHASING

Memo

Issue P/O:

18441

a) Description: Alluminum billet

b) 6.350" x 6.250" x 2.250" thick (+0.030 / -0.000)

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Grain direction along 6.350" length

e) Material: 7075-T7351 (QQ-A-250/12)

f) Material certification required

0.00

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

0.00

CL 12/11/19 10

12/12/12 10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

| | | | | | | | | | | | | | | | | | |
|--|---|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--|--|------------------------------------|--|------------------------------------|------------------------------------|-----------------------------------|--------------------------------------|----------------------------------|--------------------------------|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 33%;">Skid-tube <input type="checkbox"/></td> <td style="width: 33%;">Crosstube <input type="checkbox"/></td> <td style="width: 33%;">Water Jet <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> </tr> </table> <table style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 33%;">Engineering <input type="checkbox"/></td> <td style="width: 33%;">Quality <input type="checkbox"/></td> <td style="width: 33%;">Other <input type="checkbox"/></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | Engineering <input type="checkbox"/> | Quality <input type="checkbox"/> | Other <input type="checkbox"/> |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Engineering <input type="checkbox"/> | Quality <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Operator | | | | | | | | | |
| Material | | | | | | | | | |
| Setup | | | | | | | | | |
| Other | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| Landing Gear | General | Other |
|---|---|--|
| <input type="checkbox"/> Bending | <input type="checkbox"/> Bend | <input type="checkbox"/> Grain |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Hardware |
| <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete |
| <input type="checkbox"/> Crushed/Crimped | <input type="checkbox"/> Burrs | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs | <input type="checkbox"/> Contamination | <input type="checkbox"/> Maintenance |
| <input type="checkbox"/> Heat Treat | <input type="checkbox"/> Countersink | <input type="checkbox"/> Mislabeled |
| <input type="checkbox"/> Inspection Strip in Tube | <input type="checkbox"/> Cut Too Short | <input type="checkbox"/> Misread |
| <input type="checkbox"/> Ripples in Bend | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Offset |
| <input type="checkbox"/> Torque Waves in Extrusion | <input type="checkbox"/> Drawing | <input type="checkbox"/> Out of Calibration |
| <input type="checkbox"/> Turning Sequence | <input type="checkbox"/> Finish | <input type="checkbox"/> Out of Sequence |
| <input type="checkbox"/> Wave/Twist in Tube | <input type="checkbox"/> Folio | <input type="checkbox"/> Outside Dimensions |
| | | <input type="checkbox"/> Ovalized |
| | | <input type="checkbox"/> Over/Under tolerance |
| | | <input type="checkbox"/> Part Incorrect |
| | | <input type="checkbox"/> Part Lost/Missing |
| | | <input type="checkbox"/> Part Moved |
| | | <input type="checkbox"/> Positioned Wrong |
| | | <input type="checkbox"/> Power Loss/Surge |
| | | <input type="checkbox"/> Pressure/Forced |
| | | <input type="checkbox"/> Temperature/Cure |
| | | <input type="checkbox"/> Weld |
| | | <input type="checkbox"/> Wrong Stock Pulled |
| | | <input type="checkbox"/> Other |

Work Order ID 93314

93314

Page 2

November-15-12 11:36:24 AM

Item ID: D6101-017

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle Billet

Start Date: 11/23/12

Start Qty: 10.00

10

Cust Item ID:

Required Date: 11/30/12

Req'd Qty: 10.00

10

Customer:

Reference:

Run Start

NR1

Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop

NR2

QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

OK 12/12/10

120

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6101

10

0

130

Identify as per dwg & Stock Location: *MAT41*

0.00

FK 12/12/10

130

Packaging

Memo

0.00

Packaging

10

0

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

12/12/10

mf 12-12-10

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

| | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
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| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|--|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Doc/Data <input type="checkbox"/> | | | | | | | | | |
| Equip/Tooling <input type="checkbox"/> | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | |
| Setup <input type="checkbox"/> | | | | | | | | | |
| Other <input type="checkbox"/> | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | |

FAULT CATEGORY

| | | |
|---|---|---|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio | <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions |
| | | <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge |
| | | <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |

Picklist Print

November-15-12 11:36:24 AM

Page 1

Work Order ID: 93314

Parent Item: D6101-017

Parent Item Name: Saddle Billet

Start Date: 11/23/12

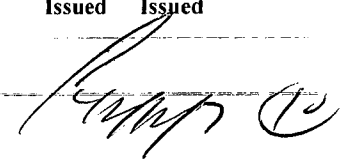
Required Date: 11/30/12

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP RevA: New issue DD verified by:EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| D6101-017P ALUM BILLET | | Purchased | No | | | 110 | Each | 0.0000 | 1 | 10 | | | |



NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

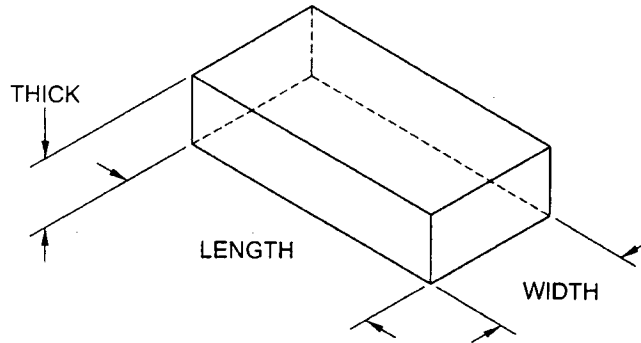
| | | | | | | | | | | | | | | | | | | |
|--|---|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
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| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
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| Doc/Data <input type="checkbox"/> | | | | | | | | | |
| Equip/Tooling <input type="checkbox"/> | | | | | | | | | |
| Operator <input type="checkbox"/> | | | | | | | | | |
| Material <input type="checkbox"/> | | | | | | | | | |
| Setup <input type="checkbox"/> | | | | | | | | | |
| Other <input type="checkbox"/> | | | | | | | | | |
| Process <input type="checkbox"/> | | | | | | | | | |
| Supplier <input type="checkbox"/> | | | | | | | | | |
| Training <input type="checkbox"/> | | | | | | | | | |
| Unapproved <input type="checkbox"/> | | | | | | | | | |

FAULT CATEGORY

| Landing Gear | General | Other |
|---|---|--|
| <input type="checkbox"/> Bending | <input type="checkbox"/> Bend | <input type="checkbox"/> Grain |
| <input type="checkbox"/> Centre Not Concentric to O/S | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Hardware |
| <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damaged | <input type="checkbox"/> Inspection Incomplete |
| <input type="checkbox"/> Crushed/Crimped. | <input type="checkbox"/> Burrs | <input type="checkbox"/> Instructions Incomplete/Unclear |
| <input type="checkbox"/> Cuffs | <input type="checkbox"/> Contamination | <input type="checkbox"/> Maintenance |
| <input type="checkbox"/> Heat Treat | <input type="checkbox"/> Countersink | <input type="checkbox"/> Mislabelled |
| <input type="checkbox"/> Inspection Strip in Tube | <input type="checkbox"/> Cut Too Short | <input type="checkbox"/> Misread |
| <input type="checkbox"/> Ripples in Bend | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Offset |
| <input type="checkbox"/> Torque Waves in Extrusion | <input type="checkbox"/> Drawing | <input type="checkbox"/> Out of Calibration |
| <input type="checkbox"/> Turning Sequence | <input type="checkbox"/> Finish | <input type="checkbox"/> Out of Sequence |
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| | | <input type="checkbox"/> Over/Under tolerance |
| | | <input type="checkbox"/> Part Incorrect |
| | | <input type="checkbox"/> Part Lost/Missing |
| | | <input type="checkbox"/> Part Moved |
| | | <input type="checkbox"/> Positioned Wrong |
| | | <input type="checkbox"/> Power Loss/Surge |
| | | <input type="checkbox"/> Pressure/Forced |
| | | <input type="checkbox"/> Temperature/Cure |
| | | <input type="checkbox"/> Weld |
| | | <input type="checkbox"/> Wrong Stock Pulled |
| | | <input type="checkbox"/> Other |

SPECIFICATION CONTROL DRAWING



SHEET NO. 1
 REV. NO. 1
 UNCONTROLLED COPY
 93314 M25
 12-11-10

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

| Part No. | Alloy | Length | Width | Thick | Grain Direction |
|-----------|--------------------------|--------|-------|-------|--------------------|
| D6101-001 | 7075-T7351 (QQ-A-250/12) | 6.000 | 6.250 | 2.000 | Along 6.000 Length |
| D6101-003 | 7075-T7351 (QQ-A-250/12) | 7.875 | 6.250 | 2.000 | Along 7.875 Length |
| D6101-005 | 7075-T7351 (QQ-A-250/12) | 5.000 | 8.250 | 2.500 | Along 5.000 Length |
| D6101-007 | 7075-T7351 (QQ-A-250/12) | 7.750 | 8.250 | 2.500 | Along 7.750 Length |
| D6101-009 | 7075-T7351 (QQ-A-250/12) | 8.700 | 8.250 | 2.500 | Along 8.700 Length |
| D6101-011 | 7075-T7351 (QQ-A-250/12) | 9.700 | 8.250 | 2.500 | Along 9.700 Length |
| D6101-013 | 7075-T7351 (QQ-A-250/12) | 10.100 | 8.250 | 2.500 | Along 10.10 Length |
| D6101-015 | 7075-T7351 (QQ-A-250/12) | 9.450 | 6.250 | 2.500 | Along 9.450 Length |
| D6101-017 | 7075-T7351 (QQ-A-250/12) | 6.350 | 6.250 | 2.250 | Along 6.350 Length |
| | | | | | |
| | | | | | |

RELEASED
 09/07/15/W

| | | | |
|------------|-------------------------------------|---|--------------|
| B | ADDED D6101-015/-017, ADD ASTM B209 | RF | 09.04.23 |
| A | NEW ISSUE | CP | 01.03.30 |
| REV. | DESCRIPTION | BY | DATE |
| DESIGN | CP | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | <i>[Signature]</i> | DRAWING NO. | REV. B |
| MFG. APPR. | <i>[Signature]</i> | D6101 | SHEET 1 OF 1 |
| APPROVED | <i>[Signature]</i> | TITLE | SCALE |
| DE APPR. | <i>[Signature]</i> | SADDLE BILLET, 7075 | NTS |
| DATE | 09.04.23 | COPYRIGHT © 2001 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> | |

**Castle Metals®**

A. M. Castle & Co.

BORDEREAU DE MARCHANDISES

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:1565010

| | | | | | | | |
|--|---------------|---|--|--|--|--|--|
| Expédié de / Ship From: | | Vendu à / Sold To: | | Expédié à / Ship To: | | Livré à / Deliver To: | |
| A. M. Castle & Co. (Canada) Inc. MONTREAL - CASTLE METALS 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2 | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN | | DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA | |
| Date d'expédition / Date Shipped | F.O.B. | Modalités de transport / Freight Terms | | Transporteur / Carrier | | No du Bon de connaissance / BOL No | |
| 06-DEC-2012 | ORIGIN | Prepaid | | MANITOULIN | | 1565010-2 | |

| | |
|--|--|
| Détails d'expédition / Shipment Details | Destination finale / Final Destination Branch - MON |
|--|--|

| | | | | | | | | |
|--|--|---|-------------------------------|-----------------------------|---------------------|--|----------------------------------|-----------------------------------|
| N° de commande / Order No | | N° de ligne Line No | | N° d'article / Item No | | Description | | |
| 2550929 | | 3 | | 750704.MO | | 2.2500.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 6.25 IN () X 6.35 IN () SPECIFICATIONS: SHIP AS SOON AS REC'D QQ-A-250/12 GRAIN ALONG 6.35" | | |
| N° de bon de commande / Purchase Order No | | Nbre de pièces / Part Number | | Qté commandée / Ordered Qty | | Qté Facturée / Invoice Qty | | |
| 18441 | | YOUR ITEM NUMBER: D6101-017 | | 10.00 PCS | | 10.00 PCS | | |
| Détails / Details | | SHIP AS SOON AS REC'D QQ-A-250/12 GRAIN ALONG 6.35" | | | | | | |
| N° de livraison / Delivery No : | | Usine / Mill | No de coulée / Heat Number | Code méc / Mech Id | Pièce s / PCS | Largeur (Pouce)/ Width (IN) | Longueur (Pouce)/ Length (IN) | Qté expédiée/ Shipped Qty(LBS) |
| 118210764 | | MATERIALS TECHNOLOG Y | 559918A8 | | 6 | | | 55.1722 |

**Castle Metals®****BORDEREAU DE MARCHANDISES****A. M. Castle & Co.**

Page 2 of 2

| | | | | | | | |
|-----------|---|----------|--|---|--|--|---------|
| 118210764 | SOLUTIONS MATERIALS TECHNOLOG Y SOLUTIONS | 542286A0 | | 4 | | | 36.7815 |
|-----------|---|----------|--|---|--|--|---------|

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Ce matériel a été reçu et inspecté par

Reviewed by Authorized Castle Metals Representative:

Date:

Name:

SHIP TO:

HADCO METAL TRADING CO. LLC
2811 CHARTER RD
PHILADELPHIA, PA 19154

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

SOLD TO:

HADCO METAL TRADING CO. LLC
2811 CHARTER RD
PHILADELPHIA, PA 19154

CERTIFIED TEST REPORT

Serial Number
4240821

| | | | | | | | | | |
|-------------------------------|-------------------------|--------------------------|---------------------|-----------------------|------------------------------|-------------------------------------|-----------------------|------------------------|--|
| CUSTOMER PO NUMBER: 028796 | | WORK PACKAGE: | | CUSTOMER PART NUMBER: | | SHIP RUN/LOAD: 102149/21 | | GOV'T CONTRACT NUMBER: | |
| KAISER ORDER NO: 1120079 | LINE ITEM: 9 | SHIP DATE: 3-OCT-2011 | ALLOY: 7075 | CLAD: BARE | TEMPER: T7351 | PRODUCT DESCRIPTION: Sawed Plate | | | |
| WEIGHT SHIPPED: 8826 LB | QUANTITY: 4 PCS EST. | B/L NUMBER: 2033946 | GAUGE: 2.2500 IN | | DIAMETER/WIDTH: 60.500 IN | | LENGTH: 157.500 IN | | |

MHU 1529500: LOT 559918A8: 2 pieces;
MHU 1529502: LOT 559918A8: 2 pieces;

Certified Specifications

AMS 4078/RevH
ASTM B 209/Rev07
BSS 7055/RevA
GAMPS 9101/RevB
PS 21211/RevL

AMS-QQ-A-250/12
ASTM B 594/Rev06
CSTI 006/RevD
GSS1610C/RevG/Amd1

AMS-STD-2154/Rev98
BAC 5439/RevH
DPS 4.713/RevAH
MMS 159/RevP

Test Code: 4297

Test Results

Lot: 559918A8 Cast 414 Drop 30 Ingot 3 Melted in USA

(ASTM E8/B557)

(EN 2002-1)

| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| | T7351 | LT / 2 (Min:Max) | 71.2 : 72.1 (491 : 497) | 59.6 : 61.4 (411 : 423) | 11.0 : 11.4 |

(ASTM E1004)

(EN 2004-1)

| Conductivity %IACS: | 41.4 Min | 41.9 Max |
|---------------------|----------|----------|
| (MS/M): | 24.0 Min | 24.3 Max |

(ASTM E1251)

| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------------|------|------|-----|------|-----|------|-----|------|------|------|----------|
| Actual | 0.08 | 0.18 | 1.4 | 0.02 | 2.5 | 0.20 | 5.8 | 0.03 | 0.01 | 0.01 | TOT 0.05 |

Castle Match Mark

HEAT NUMBER 559918A8MECHANICAL ID 750704-60ITEM CODE 2796397 MONLOT NUMBER 17423PO NUMBER 12-5-12RECEIPT DATE MTRSUPPLIER AMS-QQ-A-250/12SPECIFICATION LCSCOMMENT gAPPROVED g

DAS 12/22/10
14
9-83

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4240821

ALLOY LIMITS

| | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER | MAX |
|------|------|------|-----|------|-----|------|-----|------|------|------|-------|------|
| 7075 | | | | | | | | | | | | |
| MIN | 0.00 | 0.00 | 1.2 | 0.00 | 2.1 | 0.18 | 5.1 | 0.00 | 0.00 | 0.00 | EACH | 0.05 |
| MAX | 0.40 | 0.50 | 2.0 | 0.30 | 2.9 | 0.28 | 6.1 | 0.20 | 0.05 | 0.05 | TOT | 0.15 |

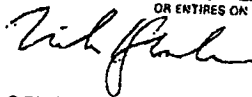
Aluminum Remainder

TEST NOTES

Metal represented by this test report was 100% immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN COMPLIANCE WITH THE REQUIREMENTS OF APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO 9001:2000 CERTIFIED.



MIKE KLOCKE, LABORATORIES SUPERVISOR

SHIP TO:
SAMUEL BAIE D'URFE(SHIP TO)
21525 CLARK-GRAHAM
BAIE D'URFE, PQ, CA H9X 3T5

SOLD TO:
SAMUEL LAVAL
2225 FRANCIS HUGHES
LAVAL, PQ, CA H7S1N5

**KAISER
ALUMINUM**

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4227484

| | | | | | | |
|-------------------------------|-------------------------|---------------------------|-----------------------|------------------------------|----------------------------|-------------------------------------|
| CUSTOMER PO NUMBER: C83589 | | WORK PACKAGE: | CUSTOMER PART NUMBER: | | SHIP RUN/LOAD: 102060/1 | GOVT CONTRACT NUMBER: |
| KAISER ORDER NO: 1114036 | LINE ITEM: 5 | SHIP DATE: 26-MAY-2011 | ALLOY: 7075 | CLAD: BARE | TEMPER: T7351 | PRODUCT DESCRIPTION: Sawed Plate |
| WEIGHT SHIPPED: 11222 LB | QUANTITY: 7 PCS EST. | B/L NUMBER: 2032191 | GUAGE: 2.2500 IN | DIAMETER/WIDTH: 48.500 IN | LENGTH: 144.500 IN | |

Certified Specifications

AMS 407B/RevH
ASTM B 209/Rev07
BSS 7055/RevA
DPS 4.713/RevAH
GSS16100/RevG/Amd1

AMS-QQ-A-260/12
ASTM B 594/Rev06
CMMP 025/RevT
EAC MS1011/RevE
MMS 159/RevN

AMS-STD-2154/Rev98
BAC 5439/RevH
CSTI 006/RevD
GAMPS 9101/RevB
PS 21211/RevK

Test Code: 4297

Test Results

Lot: 542286A0 Cast 386

Drop 57

Ingot 4

Melted in USA

(ASTM E8/B667)
(EN 2002-1)

| | | | | | |
|----------|--------|------------------|----------------------------|----------------------------|--------------|
| Tensile: | Temper | Dir / # Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| | T7351 | LT / 2 (Min:Max) | 71.4 : 73.3 (492 : 505) | 60.2 : 62.9 (415 : 434) | 12.1 : 12.9 |

(ASTM E1004)
(EN 2004-1)

| | | |
|---------------------|----------|----------|
| Conductivity %IACS: | 41.1 Min | 41.5 Max |
| (MS/M): | 23.8 Min | 24.1 Max |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|------|-----|------|-----|------|-----|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.09 | 0.17 | 1.5 | 0.03 | 2.4 | 0.20 | 6.7 | 0.03 | 0.01 | 0.02 | TOT 0.04 |

Castle Metals Men

HEAT NUMBER 542286A0

MECHANICAL ID

ITEM CODE 750704 Bo

LOT NUMBER 2796401 MON

PO NUMBER 17423

RECEIPT DATE 12-5-12

SUPPLIER MTR

SPECIFICATION AMS-QQ-A-250/12

LCS

COMMENT

APPROVED

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4227484

Lot: 542371A0 Cast 386

Drop 58

Ingot 4

Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile: Temper
T7351

Dir / # Tests
LT / 2 (Min:Max)

Ultimate KSI (MPa)
72.1 : 73.1
(497 : 504)

Yield KSI (MPa)
61.0 : 62.1
(421 : 428)

Elongation %
12.2 : 13.2

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS:
(MS/M):

40.9 Min
23.7 Min

41.3 Max
24.0 Max

(ASTM E1251)

Chemistry:
Actual

| SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
|------|------|-----|------|-----|------|-----|------|------|------|----------|
| 0.08 | 0.15 | 1.4 | 0.03 | 2.5 | 0.20 | 5.6 | 0.02 | 0.01 | 0.02 | TOT 0.03 |

ALLOY LIMITS

| | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER | MAX |
|------|------|------|-----|------|-----|------|-----|------|------|------|-------|------|
| 7075 | | | | | | | | | | | | |
| MIN | 0.00 | 0.00 | 1.2 | 0.00 | 2.1 | 0.18 | 5.1 | 0.00 | 0.00 | 0.00 | EACH | 0.05 |
| MAX | 0.40 | 0.50 | 2.0 | 0.30 | 2.9 | 0.28 | 8.1 | 0.20 | 0.05 | 0.05 | TOT | 0.15 |

Aluminum Remainder

ORDER COMMENTS
MAX HEIGHT 12" SKIDDED

TEST NOTES

Metal represented by this test report was immersion
ultrasonically tested from one side and meets the Class A
and Class B requirements of all specifications referenced
on this test report.

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.228 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN COMPLIANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW: ISO 9001:2000 CERTIFIED.


BILL POYNOR, LABORATORIES SUPERVISOR

Page 2 of 2